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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,364

12/11/2003

Paul Baskis

BASKIS-CTP

2807

7590

05/05/2006

EXAMINER

SINGH, PREM C

Michael Berns  
Maloney Parkinson & Berns  
135 West Main Street  
Urbana, IL 61801

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/734,364

Applicant(s)

BASKIS, PAUL

Examiner

Prem C. Singh

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

Applicant is reminded of the proper content of an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.

Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bearden, Jr. et al (US Patent 3,787,315) in view of Austerman (US Patent 2,218,306).

Claim 1 is a process for treating materials comprising: combining the material with water, adding liquid sodium, separating the resulting compounds to provide distinct materials.

Bearden invention discloses "A process for the desulfurization of sulfur-containing petroleum oil stocks. More particularly, the process comprises contacting a sulfur-containing oil stock with an alkali metal or alkali metal alloy" (Column 1, lines 7-11). "Fortunately, the sludge decomposes when water or hydrogen sulfide is added preparatory to salt recovery and subsequent process steps are not complicated by the viscosity problem" (Column 2, lines 59-63). "The sodium may be used as a dispersion of the pure metal or in the form of a molten alloy such as sodium/mercury, sodium/lead, or

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sodium/tin" (Column 4, lines 36-38). "The contacting of the sodium metal or sodium metal alloy with the sulfur containing oil is preferably carried out at temperatures and pressures sufficient to maintain the bulk of the reactants within the reaction zone in the liquid phase" (Column 4, lines 43-47). "It is understood that trace amounts of water, i.e., less than about 0.5 wt %, preferably less than about 0.1 wt % based on total feed, can be present in the reactor" (Column 5, lines 29-32). "Desulfurized oil recoveries were essentially quantitative in all examples" (Column 17, lines 43-44). "The reagent of choice, water or hydrogen sulfide, was added directly to the reactor mixture contained in the sodium treating reactor. Normally, the addition was made immediately at the end of sodium treating step and at the same temperature employed in the sodium treating step" (Column 17, lines 47-52).

Bearden invention does not add water before adding sodium.

Austerman invention discloses "A process which consists in placing a predetermined quantity of water in the bore hole on top of which is placed a column of oil, which being lighter than the water and immiscible therewith, will remain in position". "I then lower a sodium alloy or amalgam at least to the top of the oil column and then permit the same to fall through the oil and contact the water. The sodium does not react with oil under ordinary conditions and consequently there is no chemical reaction and consequent evolution of heat and agitation, until the sodium contacts the water near the bottom of the drill hole" (Page 1, column 2, lines 32-45). "I therefore, propose to cause a

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violent chemical reaction in the vicinity of the producing sand within the bore hole in order to produce heat and violent agitation under pressure and at the same time form a material which will tend to emulsify any paraffinic, asphaltic, or other substances" (Page 1, column 1, lines 30-36). "The heat thus produced melts the paraffinic, resinous or other substances clogging the pores of the sand and the violent agitation caused by the reaction and evolution of hydrogen causes the melted paraffin to emulsify or remain in a finely divided state of suspension in the water" (Page 1, column 2, lines 53-55; page 2, column 1, lines 1-4). "The hydrogen evolved also creates considerable agitation and thoroughly churns the water about" (Page 2, column 2, lines 54-56).

Knowing the fact that sodium and water react violently creating enormous heat and agitation, and also producing hydrogen, it would have been obvious to one skilled in the art at the time the invention was made to combine Bearden and Austerman inventions and add water before adding sodium to the hydrocarbon oil to create violent reaction between sodium and water producing hydrogen which will react with sulfur and accelerate the desulfurization of hydrocarbon oil.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wait, US Patent 2,050,772.

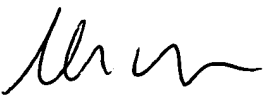
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prem C. Singh whose telephone number is 571-272-6381. The examiner can normally be reached on MF 6:30 AM-3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ps/042506

  
Glenn Caldarola  
Supervisory Patent Examiner  
Technology Center 1700